UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,187	05/04/2001	Ramesh Nagarajan	13-10	9273

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EXAMINER
WILSON, ROBERT W

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _25 June 2005_.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-10 and 14-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-10 and 14-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1, 3, 6-7, 14, 16, & 18 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Tyrell (U.S. Patent No.: 5,185,736) in view of Livermore (U.S. Patent No.; 6,542,511).

Referring to claim 1, Tyrell teaches: An ADM or node for grooming per col. 12 lines 3-23. The
ADM or node inherently has an interface to a high speed capacity trunk called an east connection
or type 2 node and also inherently has an interface to a high speed capacity trunk called a west
connection or type 1 node per col. 12 lines 3-23. The ADM can groom DSOs or low capacity
client signals into high speed or high capacity east as well as the high speed or high capacity
west. The reference does not expressly call for: wherein only a portion of those low capacity
client signals destined for the type one node are groomed into the high capacity trunk to the type
two node but teaches an ADM per col. 12 lines 3-23.

Livermore teaches: ADMs are utilized to create a ring network per Fig 9 and that the ADM will
distribute a stream or traffic which is destination specific into two paths in order to balance the
traffic load between nodes on a ring per col. 9 line 34-col. 12 line 4 or wherein only a portion of
those low capacity client signals destined for the type one node are groomed into the high
capacity trunk to the type two node.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add
the load balancing over a ring network of Livermore to the ADM capability of Tyrell in order to
build a.network for carrying balanced traffic.

In addition the combination teaches:

Regarding to claim 2, the combination of Tyrell and Livermore teaches: the apparatus of claim 1,
The combination of Tyrell and Livermore do not expressly call for: wherein the groomed portion
is zero but teach load balancing per col. 9 line 34-col. 12 line 4.

It would have been obvious to one of ordinary skill in the art at the time of the invention that if
the load is already balanced that no grooming or zero grooming would be required.

In addition Tyrell teaches:

Regarding claim 3, The ADM or node inherently has an interface to a high speed capacity trunk called an east connection or type 2 node.

Regarding claim 8, the reference teaches that the ADM can interface for a high speed to low speed per col. 1 lines 44-56. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the first node a low speed or low traffic node and the second node a high speed or high traffic node to provide rate adaptation.

Referring to claim 6, Tyrell teaches: An ADM or apparatus or node for grooming per col. 12 lines 3-23. The ADM or node inherently has an interface to a high speed capacity trunk called an east connection or type 2 node and also inherently has an interface to a high speed capacity trunk called a west connection or type 1 node per col. 12 lines 3-23. The ADM can groom DSOs or low capacity client signals into high speed or high capacity east as well as the high speed or high capacity west. The reference does not expressly call for: such that only a portion of those low capacity client signals destined for the type one node are groomed into the high capacity trunk to the type two node but teaches an ADM per col. 12 lines 3-23.

Livermore teaches: ADMs are utilized to create ring networks per Fig 9 and that the ADM will distribute a stream or traffic which is destination specific into two paths in order to balance the traffic load between nodes on a ring per col. 9 line 34-col. 12 line 4 or such that only a portion of those low capacity client signals destined for the type one node are groomed into the high capacity trunk to the type two node

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the load balancing over a ring network of Livermore to the ADM capability of Tyrell in order to build a network for carrying balanced traffic

In addition the combination teaches:

Regarding to claim 7, the combination of Tyrell and Livermore teaches: the apparatus of claim 6, The combination of Tyrell and Livermore does not expressly call for: wherein the groomed portion is zero but teaches load balancing per col. 9 line 34-col. 12 line 4.

It would have been obvious to one of ordinary skill in the art at the time of the invention that if the load is already balanced that no grooming or zero grooming is required.

Referring to claim 14, Tyrell teaches: An ADM or node for grooming per col. 12 lines 3-23. The ADM receives DSO or low capacity client signals. The ADM grooms the DSOs into high speed or high capacity signals to the west or first type node. The ADM grooms the DSOs into high speed or high capacity signals to the east or second type node.

The reference does not expressly call for: transmitting the DSO or low capacity signals between the two high capacity trunks or wherein said others of the low capacity signals transmitted over

the other high capacity trunk comprise low capacity client signals destined for the first type of node but teaches an ADM per col. 12 lines 3-23.

Livermore teaches: ADMs are utilized to create ring networks per Fig 9 and that the ADM will distribute a stream or traffic which is destination specific into two paths in order to balance the traffic load between nodes on a ring per col. 9 line 34-col. 12 line 4 or transmitting the DSO or low capacity signals between the two high capacity trunks or wherein said others of the low capacity signals transmitted over the other high capacity trunk comprise low capacity client signals destined for the first type of node.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the load balancing over a ring network of Livermore to the ADM capability of Tyrell in order to build a network for carrying balanced traffic

In addition the combination teaches:

Regarding to claim 16, the combination of Tyrell and Livermore teaches: the apparatus of claim 1,
The combination of Tyrell and Livermore does not expressly call for: wherein the groomed portion is zero but teaches load balancing per col. 9 line 34-col. 12 line 4.

It would have been obvious to one of ordinary skill in the art at the time of the invention that if the load is already balanced no grooming or zero grooming is required.

In addition Tyrell teaches:

Regarding claim 18, the reference teaches that the ADM can interface high speed to low speed per col. 1 lines 44-56. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the first node a low speed or low traffic node and the second node a high speed or high traffic node to provide rate adaptation.

3.   Claims 5, 10, & 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tyrell

(U.S. Patent No.: 5,185,736) in view of Livermore (U.S. Patent No.; 6,542,511) further in view

of Shibashi (U.S. Patent No.: 5,754,545).

Referring to claim 5, the combination of Tyrell and Livermore teaches: the apparatus of claim 1 and conversion of DSOs into DS1 signals per col. 12 lines 3-23 of Tyrell.

Shibashi teaches: an add/drop multiplexer grooming DS1 to STS or OC signals per col. 1 line 1-col. 3 line 19.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the capability of Shibashi to the ADM of Tyrell in order to convert from legacy DSO and DS1 to optical network based upon SDH standard.
Referring to claim 10, the combination of Tyrell and Livermore teaches: the apparatus of claim 6 and conversion of DSOs into DS1 signals per col. 12 lines 3-23 of Tyrell.

Shibashi teaches: an add/drop multiplexer grooming DS1 to STS, or OC signals per col. 1 line 1-col. 3 line 19.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the capability of Shibashi to the ADM of Tyrell in order to convert from legacy DSO and DS1 to optical network based upon SDH standard.

Referring to claim 15, the combination of Tyrell and Livermore teaches: the apparatus of claim14 and conversion of DSOs into DS1 signals per col. 12 lines 3-23 of Tyrell.

Shibashi teaches: an add/drop multiplexer grooming DS1 to STS, or OC signals per col. 1 line 1-col. 3 line 19.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the capability of Shibashi to the ADM of Tyrell in order to convert from legacy DSO and DS1 to optical network based upon SDH standard.

4.   Claims 4, 9, & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tyrell

(U.S. Patent No.: 5,185,736) in view of Livermore (U.S. Patent No.; 6,542,511) further in view

of Ardon (U.S. Patent No.; 5,105,420) further in view of Inoue (U.S. Patent No.: 5,214,312)

Referring to claim 4,the combination of Tyrell and Livermore teaches: the apparatus of claim 1, The combination does not expressly call for: wherein the type one node is a cable station and the type two node is a central office but teaches a multiplexer

Ardon teaches: that the central office has alternative design to the old design with the DACs per Fig 4A & 4B is now a design with ADM per Fig 5 or wherein the type two node is a central office.

It would have been obvious to one of ordinary skill in the art a the time of the invention to have installed the ADM of Ardon into the apparatus of the combination in order to set up a network of fiber rings

The combination of Tyrell, Livermore, and Ardon do not expressly call for: wherein the type one node is a cable station but teaches an ADM

Inoue teaches: cable stations are connected to an optical marine cable by a submarine branch unit which has an optical mux/demux or ADM per Fig 4 & 51-5F. It would have been obvious to one of ordinary skill in the art at the time of the invention to insert a ADM in the cable station in order to receive signals from the submarine branch unit. It would have been obvious to one of ordinary skill in the art at the time of the invention to add the ADM in the cable station Inoue to the central office of the combination of Tyrell, Livermore, and Ardon because it is a location that muxes are inserted in a network.

Referring to claim 9,the combination of Tyrell and Livermore teaches: the apparatus of claim 6, The combination of Tyrell and Livermore do not expressly call for: wherein the type one node is a cable station and the type two node is a central office but teaches a multiplexer

Ardon teaches: that the central office has alternative design to the old design with the DACs per Fig 4A & 4B is now a design with ADM per Fig 5 or wherein the type two node is a central office.

It would have been obvious to one of ordinary skill in the art a the time of the invention to have installed the ADM of Ardon into the apparatus of the combination in order to set up a network of fiber rings

The combination of Tyrell, Livermore, and Ardon do not expressly call for: wherein the type one node is a cable station but teaches an ADM

Inoue teaches: cable stations are connected to an optical marine cable by a submarine branch unit which has an optical mux/demux or ADM per Fig 4 & 51-5F. It would have been obvious to one of ordinary skill in the art at the time of the invention to insert a ADM in the cable station in order to receive signals from the submarine branch unit. It would have been obvious to one of ordinary skill in the art at the time of the invention to add the ADM in the cable station Inoue to the central office of the combination of Tyrell, Livermore, and Ardon because it is a location that muxes are inserted in a network.

Referring to claim 17,the combination of Tyrell and Livermore teaches: the method of claim 14, The combination does not expressly call for: that the central office has alternative design to the old design with the DACs per Fig 4A & 4B is now a design with ADM per Fig 5 or wherein the type two node is a central office.

It would have been obvious to one of ordinary skill in the art a the time of the invention to have installed the ADM of Ardon into the apparatus of the combination in order to set up a network of fiber rings

The combination of Tyrell, Livermore, and Ardon do not expressly call for: wherein the type one node is a cable station but teaches an ADM

Inoue teaches: cable stations are connected to an optical marine cable by a submarine branch unit which has an optical mux/demux or ADM per Fig 4 & 51-5F. It would have been obvious to one of ordinary skill in the art at the time of the invention to insert a ADM in the cable station in order to receive signals from the submarine branch unit. It would have been obvious to one of ordinary skill in the art at the time of the invention to add the ADM in the cable station Inoue to the central office of the combination of Tyrell, Livermore, and Ardon because it is a location that muxes are inserted in a network.

5.   Claims 19 & 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tyrell

(U.S. Patent No.: 5,185,736) in view of Livermore (U.S. Patent No.; 6,542,511) further in view

of Nishio (U.S. Patent No.: 6,075,630).

Referring to claim 19, the combination of Tyrell and Livermore teaches: the apparatus of claim 1 wherein grooming of the portion of those low capacity client signals destined for said type one node into the high capacity trunk to said type two node and determining amount of traffic between a type one node

The combination of Tyrell and Livermore does not expressly call for: determining the amount of traffic between another type one node and said type one node; determining whether said amount of traffic between said type one node and said type one node exceed a threshold, said threshold comprising a fraction of the capacity of said high capacity trunk and if said amount of traffic between said type one node and said another type one node does not exceed said threshold routing said amount of traffic over said high capacity trunk to said type two node.

Nishio teaches: determining the amount of traffic between another type one node and said type one node; determining whether said amount of traffic between said type one node and said type one node exceed a threshold, said threshold comprising a fraction of the capacity of said high capacity trunk and if said amount of traffic between said type one node and said another type one node does not exceed said threshold routing said amount of traffic over said high capacity trunk to said type two node col. 3 line 35-coll 4 line 63col. 11 line 25-40 and col. 13 line 7-25and col. 15 line 1-38. Nisho does not expressly call for a threshold comprising a fraction of the capacity but teaches a threshold. It is within the level of one skilled in the art at the time of the invention to tweak parameters or to create a threshold which is a fraction of the capacity.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the thesholding of traffic of Nishio to the apparatus of the combination of Tyrell and Livermore in order to balance the traffic load

Referring to claim 20, the combination of Tyrell, Livermore, and Nisio teaches: the method of claim 19

The combination of Tyrell, Livermore, & Nishio does not expressly call for: if said amount of traffic between said type one node and said another type one node exceeds said threshold, provision at least one additional trunk between said another type one node and said type one node.

Nishio teaches: if said amount of traffic between said type one node and said another type one node exceeds said threshold, create an alternate path or provision at least one additional trunk between said another type one node and said type one node per col. 3 line 35-col. 4 line 63col. 11 line 25-40 and col. 13 line 7-25and col. 15 line 1-38.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the thresholding of traffic of Nishio to the apparatus of the combination of Tyrell, Livermore, and Nishio in order to balance the traffic load

Claim Objections

6.   Claims 2, 7, & 20 are objected to because of the following informalities:

Referring to claims 2 & 7, the depended claim limitation of "wherein the groomed portion is zero" is confusing. The examiner believes that the applicant is trying to say that the "wherein no portion of the low capacity client signals destined for the type one node are groomed into the hig capacity trunk to the type two node".

Referring to claim 20, the dependent method claim refers back to a dependent apparatus claim. Suggest making claim 20 a depended apparatus claim. Appropriate correction is required.

Response to Arguments

7.   Applicant's arguments with respect to claims 1-10 & 14-20 have been considered but are

moot in view of the new ground(s) of rejection. Please refer to the above rejection for details.

Conclusion

8.   Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Robert W. Wilson whose telephone number is 571/272-3075. The

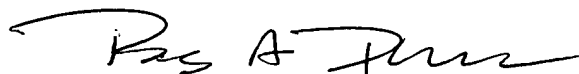examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chau T. Nguyen can be reached on 571/272-3126. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Robert W Wilson
Examiner
Art Unit 2661

RWW
7/1/05

BOB PHUNKULH
PRIMARY EXAMINER